

WHAT IS CLAIMED IS:

1. An absorbing rod having a nearly the same shape as the shape of a columnar control rod for PWR used in reactivity control of core in a reactor, and having a neutron shielding capability.
2. The absorbing rod according to claim 1, further comprising a fixing member for fixing said absorbing rod at a position corresponding to a control rod guide pipe of spent fuel assemblies for PWR or a sectional position of the control rod guide pipe including a measuring pipe.
3. The absorbing rod according to claim 1, wherein said absorbing rod is composed of aluminum composite material or aluminum alloy formed by adding powder of boron or boron compound having a neutron absorbing performance to aluminum or aluminum alloy powder.
4. An absorbing rod which is to be inserted into a control rod guide pipe of spent fuel assemblies or a measuring pipe, wherein
- said absorbing rod is composed of aluminum composite material or aluminum alloy formed by adding powder of boron or boron compound having a neutron absorbing performance to aluminum or aluminum alloy powder, and

said absorbing rod is used, when transporting the spent fuel assemblies by storing into a cask, by inserting said absorbing rod into said control rod guide pipe or said measuring pipe.

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5. A cask comprising:

an absorbing rod group, to be inserted into a control rod guide pipe group including a control rod guide pipe or a measuring pipe of spent fuel assemblies for PWR, having a nearly same shape as the shape of a columnar control rod for PWR used in reactivity control of core in a reactor, and having a neutron shielding capability; *pressurized water reactor*
spent fuel assemblies for PWR having a control rod guide pipe in which said absorbing rod group is inserted or
15 a control rod guide pipe group including a measuring pipe;
a basket forming a lattice cell for accommodating the spent fuel assemblies for PWR in which said absorbing rod group is inserted;
a shell main body accommodated in said basket, and
20 having a neutron shield on the outer circumference, for shielding gamma-rays; and
a detachable lid provided in an opening of said shell main body for putting the spent fuel assemblies for PWR in which said absorbing rod group is inserted, in and out of
25 said lattice cell.

6. The cask according to claim 5, wherein said absorbing rod is a control rod for PWR.

7. The cask according to claim 5, wherein the equivalent
5 thickness corresponding to the neutron absorbing capability
or neutron moderating capability of the plates or square
pipes for composing the basket for holding the spent fuel
assemblies for PWR in the cask, of the portion corresponding
to the sectional area of the absorbing rod inserted in the
10 spent fuel assemblies for PWR, is reduced for the portion
of the equivalent sectional area corresponding to the
neutron absorbing capability or neutron moderating
capability of the absorbing rod inserted in the spent fuel
assemblies for PWR.

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8. The cask according to claim 5, wherein said absorbing rod is composed of aluminum composite material or an aluminum alloy formed by adding powder of boron or born compound having a neutron absorbing performance to aluminum or aluminum
20 alloy powder.

9. An inserting apparatus comprising:
an absorbing bar element having a nearly same shape
as the shape of a columnar control rod for PWR used in
25 reactivity control of core, at a position corresponding to

group and control rod guide pipe group are adjusted on the basis of the result of detection by said position detection unit, and the absorbing rod group is lowered to insert the absorbing rod group into the control rod guide pipe or the control rod guide pipe including the measuring pipe.

10. The inserting apparatus according to claim 9, further comprising a distance detection unit which detects whether the distance between the suspender and the fixing member is within a specific range or not.

11. A conveying and storing method of spent fuel assemblies comprising:

a step of inserting an absorbing rod group having a nearly same shape as the shape of a columnar control rod for PWR used in reactivity control of core in a reactor, and having a neutron shielding capability, into a control rod guide pipe group including a measuring pipe of spent fuel assemblies for PWR; and

a step of conveying and storing the spent fuel assemblies for PWR in a state in which said absorbing rod group is inserted.

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